

(c) *Surge brake exception.* This requirement is not applicable to trailers equipped with surge brakes that satisfy the conditions specified in § 393.48(d).

[72 FR 9871, Mar. 6, 2007]

§ 393.50 Reservoirs required.

(a) *Reservoir capacity for air-braked power units manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975.* Buses, trucks, and truck-tractors manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975, must meet the reservoir requirements of FMVSS No. 121, S5.1.2, in effect on the date of manufacture.

(b) *Reservoir capacity for air-braked vehicles not subject to FMVSS No. 121 on the date of manufacture and all vacuum braked vehicles.* Each motor vehicle using air or vacuum braking must have either reserve capacity, or a reservoir, that would enable the driver to make a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that indicated by the air or vacuum gauge immediately before the brake application is made. For the purposes of this paragraph, a full service brake application means depressing the brake pedal or treadle valve to the limit of its travel.

(c) *Safeguarding of air and vacuum.* Each service reservoir system on a motor vehicle shall be protected against a loss of air pressure or vacuum due to a failure or leakage in the system between the service reservoir and the source of air pressure or vacuum, by check valves or equivalent devices whose proper functioning can be checked without disconnecting any air or vacuum line, or fitting.

(d) *Drain valves for air braked vehicles.* Each reservoir must have a condensate drain valve that can be manually operated. Automatic condensate drain valves may be used provided (1) they may be operated manually, or (2) a manual means of draining the reservoirs is retained.

[70 FR 48052, Aug. 15, 2005]

§ 393.51 Warning signals, air pressure and vacuum gauges.

(a) *General Rule.* Every bus, truck and truck tractor, except as provided in paragraph (f), must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's service brake system. The warning signal must meet the applicable requirements of paragraphs (b), (c), (d) or (e) of this section.

(b) *Hydraulic brakes.* Vehicles manufactured on or after September 1, 1975, must meet the brake system indicator lamp requirements of FMVSS No. 571.105 (S5.3) applicable to the vehicle on the date of manufacture. Vehicles manufactured on or after July 1, 1973 but before September 1, 1975, or to which FMVSS No. 571.105 was not applicable on the date of manufacture, must have a warning signal which operates before or upon application of the brakes in the event of a hydraulic-type complete failure of a partial system. The signal must be either visible within the driver's forward field of view or audible. The signal must be continuous. (NOTE: FMVSS No. 105 was applicable to trucks and buses from September 1, 1975 to October 12, 1976, and from September 1, 1983, to the present. FMVSS No. 105 was not applicable to trucks and buses manufactured between October 12, 1976, and September 1, 1983. Motor carriers have the option of equipping those vehicles to meet either the indicator lamp requirements of FMVSS No. 105, or the indicator lamp requirements specified in this paragraph for vehicles which were not subject to FMVSS No. 105 on the date of manufacture.)

(c) *Air brakes.* A commercial motor vehicle (regardless of the date of manufacture) equipped with service brakes activated by compressed air (air brakes) or a commercial motor vehicle towing a vehicle with service brakes activated by compressed air (air brakes) must be equipped with a pressure gauge and a warning signal. Trucks, truck tractors, and buses manufactured on or after March 1, 1975, must, at a minimum, have a pressure gauge and a warning signal which meets the requirements of FMVSS No. 121 (S5.1.4 for the pressure gauge and